

### **ABSTRACT**

In an initial state, the exhaust gas temperature at a catalytic converter inlet is predicted based on a stored exhaust gas temperature of the previous engine shut-off and a time elapse  
5 between the previous engine shut-off and subsequent engine restart. In a steady state, the exhaust gas temperature at the catalytic converter inlet is predicted by summing the base exhaust gas temperature at the catalytic converter inlet and the exhaust pipe temperature at the catalytic converter inlet with a predetermined rate.